

CLAIMS

- [1] An engine valve operating system comprising a rocker arm (63, 111) which has a cam abutting portion (65, 114) abutting against a valve operating cam (69) and is interlocked and  
5 connected to an engine valve (19), a first link arm (61, 112) having one end turnably connected to the rocker arm (63, 111) and the other end turnably supported at a fixed position of the engine body (10), a second link arm (62, 113) having one end turnably connected to the rocker arm (63, 111) and the  
10 other end turnably supported by a displaceable movable support shaft (68a, 134), and driving means (72) connected to the movable support shaft (68a, 134) to enable a position of the movable support shaft (68a, 134) to be displaced in order to continuously vary the lift amount of the engine valve (19),  
15 wherein the rocker arm (63, 111) having a valve connecting portion (63a, 111a) into which tappet screws (70) abutting against a pair of engine valves (19) are screwed so that their advance/retract positions can be adjusted and a first and second support portions (63b, 63c; 111b, 111c) to which the  
20 one ends of the first and second link arms (61, 62; 112, 113) are turnably connected is formed so that the valve connecting portion (63a, 111a) has a larger width in a direction along a rotating axis of the valve operating cam (69) than in a remaining part.
- [2] The engine valve operating system according to claim 1, wherein the other end of the first link arm (61, 111) is turnably supported via a support shaft (67, 119) by support walls (44a,

98) provided in the engine body (10) so as to lie on opposite sides of the other end of the first link arm (61, 112), and an interposition (54, 122) is placed between the other end of the first link arm (61, 112) and each of the support walls (44a, 98).

[3] The engine valve operating system according to claim 2, wherein the interposition (54, 112) is a torsion spring provided between the engine body (10) and the rocker arm (63, 111) so as to bias the rocker arm (63, 111) in a side in which the cam abutting portion (65, 114) abuts against the valve operating cam (69).

[4] The engine valve operating system according to claim 1, wherein the first support portion (63b, 111b) is formed into a substantially U-shape so as to sandwich a roller (65, 114) which is the cam abutting portion, between the opposite sides, and the roller (65, 114) is rotatably supported by the first support portion (63b, 111b).

[5] The engine valve operating system according to claim 4, wherein a pair of connecting portions (61a, 112a) is provided at the one end of the first link arm (61, 112) so as to sandwich the first support portion (63b, 111b) of the rocker arm (63, 111) between the connecting portions (61a, 112a), the connecting portions (61a, 112a) are turnably connected to the first support portion (63b, 111b) via a connecting shaft (64, 115), and the roller (65, 114) is axially supported by the first support portion (63b, 111b) via the connecting shaft (64, 115).

[6] The engine valve operating system according to claim 1, wherein the rocker arm (63, 111) is formed so that the first and second support portions (63b, 63c; 111b, 111c) have the same width.

5 [7] The engine valve operating system according to claim 1, wherein connecting holes (49, 50) through which connecting shafts (64, 66) used to turnably connect the one ends of the first and second link arms (61, 62) are inserted are formed in the first and second support positions (63b, 63c) so as  
10 to be side by side in a direction of opening/closing operations of the engine valves (19), and the first and second support portions (63b, 63c) are connected together by a connecting wall (63d) at least partly placed opposite from the engine valves (19) with respect to a tangent (L) contacting with outer  
15 edges of the connecting holes (49, 50) near the engine valves (19).

[8] The engine valve operating system according to claim 7, wherein a concave portion (51) is formed in the connecting wall (63d) at a position opposite from the other end of the  
20 second link arm (62) when the other end of the second link arm (62) is closest to the rocker arm (63).

[9] The engine valve operating system according to claim 7, wherein a lightening portion (52) is formed in the connecting wall (63d).

25 [10] The engine valve operating system according to claim 1, wherein lightening portions (117, 118) are alternately formed in opposite surfaces of the rocker arm molded.